

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1-22. (CANCELLED)

23. (NEW) An image forming apparatus comprising:

an engine mechanism to perform a printing operation with respect to print data, the engine mechanism including a paper feeding unit to pick up paper from a paper feeding cassette sheet by sheet in accordance with a paper feed control signal, a laser scanning unit to form an electrostatic latent image on a photosensitive drum by emitting a laser beam in accordance with image data, a developing unit to develop an electrostatic latent image by feeding a developer on the photosensitive drum, a transfer unit to transfer the developed image onto a fed sheet and a fusing unit to fuse the transferred image onto the paper with heat and pressure;

a video unit including a microprocessor to execute software instructions to generate image data based on print data;

an engine control unit embodied as an application specific integrated circuit (ASIC) configured to receive operation state information relating to operational states of the engine mechanism, the engine control unit including a memory to store the operation state information received from the engine mechanism; and

a bi-directional bus provided between the engine control unit and the microprocessor of the video unit,

wherein the microprocessor of the video unit generates and transmits instruction commands to the engine control unit,

wherein the engine control unit drives the engine mechanism, including the paper feeding unit, the laser scanning unit, the developing unit, the transfer unit and the fusing unit, according to the image data and the instruction commands generated and transmitted by the microprocessor of the video unit,

wherein the video unit and the engine control unit are arranged on a single printed circuit

board (PCB).

24. (NEW) The image forming apparatus of claim 23, wherein the microprocessor generates instruction commands based on operation state information read from the memory of the engine control unit.

25. (NEW) The image forming apparatus of claim 23, wherein the bi-directional bus between the engine control unit and the microprocessor of the video unit is arranged to provide direct connection between the engine control unit and the microprocessor.

26. (NEW) The image forming apparatus of claim 25, wherein the bi-directional bus comprises a control bus to input and output a horizontal synchronization (HSYNC) signal, a page synchronization signal request signal and a page synchronization (PSYNC) signal.

27. (NEW) A method comprising:
executing, by a video unit including a microprocessor, software instructions and generating image data based on print data; and
connecting the video unit and an engine control unit which receives operation state information relating to operational states of an engine mechanism, the engine control unit including a memory to store the operation state information received from the engine mechanism, the connecting comprising connecting with a bi-directional bus which is provided between the engine control unit and the microprocessor of the video unit,

wherein the engine mechanism includes a paper feeding unit to pick up paper from a paper feeding cassette sheet by sheet in accordance with a paper feed control signal, a laser scanning unit to form an electrostatic latent image on a photosensitive drum by emitting a laser beam in accordance with image data, a developing unit to develop an electrostatic latent image by a feeding developer on the photosensitive drum, a transfer unit to transfer the developed image onto a fed sheet and a fusing unit to fuse the transferred image onto the paper with heat and pressure,

wherein the engine control unit embodies an application specific integrated circuit (ASIC) and drives the engine mechanism, including the paper feeding unit, the laser scanning unit, the developing unit, the transfer unit and the fusing unit, according to the image data and the

instruction commands generated and transmitted by the microprocessor of the video unit,
wherein the microprocessor of the video unit generates and transmits instruction
commands to the engine control unit,

wherein the video unit and the engine control unit are arranged on a single printed circuit
board (PCB).

28. (NEW) The method of claim 27, further comprising:

performing, by the engine mechanism, a printing operation with respect to print data.

29. (NEW) The method of claim 27, wherein the microprocessor generates instruction
commands based on operation state information read from the memory of the engine control
unit.

30. (NEW) The method of claim 27, wherein the bi-directional bus between the engine
control unit and the microprocessor of the video unit is arranged to provide direct connection
between the engine control unit and the microprocessor.

31. (NEW) The method of claim 30, wherein the bi-directional bus comprises a control
bus to input and output a horizontal synchronization (HSYNC) signal, a page
synchronization signal request signal and a page synchronization (PSYNC) signal.